

Date: Monday, 5/26/2008 1:09:50 PM
 User: Chantal Lavoie

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: PANEL-350 UPPER BULKHEAD
Job Number	: 39496	Part Number	: D36553
Estimate Number	: 13100	Drawing Number	: D3655 UNDER REVIEW <i>RD</i>
P.O. Number	:	Project Number	: 00204
This Issue	: 5/26/2008 S.O. No. :	Drawing Revision	: A
Prsht Rev.	: NC	Material	:
First Issue	: / / Type : THERMOFORMING	Due Date	: 5/30/2008 Qty: 4 Um: Each
Previous Run	: 39493		
Written By	:		
Checked & Approved By	: <i>JLD 08-5-26</i>		
Comment	: Est. Rev. A 07/12/13 DL verified by:DD		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	MLEXS093F600607	GE PLASTICS LEXAN SHEET
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Comment: Qty.: 34.6600 sf(s)/Unit Total: 138.6400 sf(s)

GE PLASTICS LEXAN SHEET

batch: *M107574*
BB 08/06/12

2.0	HAND FINISH TH	HAND FINISHING THERMOFORMING
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Comment: HAND FINISHING THERMOFORMING

1) Cut Blanks to fit frame size

BB 08/06/12 *(XY)*

3.0	THERMOFORMING	THERMOFORMING MACHINE
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Comment: THERMOFORMING MACHINE

Thermoform as per Dwg. D3655-3 and Folio FTA 017 using tool DT 8985

Dwg. Rev. *X*Folio Rev. *A*
BB 08/06/12 *(XY)*

4.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
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Comment: INSPECT PARTS AS THEY COME OFF MACHINE

Visually inspect for proper formation of each part

BB 08/06/13 *(XY)*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 5/26/2008 1:09:50 PM
User: Chantal Lavoie

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: PANEL-350 UPPER BULKHEAD

Job Number: 39496

Part Number: D36553

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

QC8

SECOND CHECK



Comment: SECOND CHECK

SOB 08/06/18 (44)

6.0

HAND FINISH TH

HAND FINISHING THERMOFORMING



Comment: HAND FINISHING THERMOFORMING

1) Trim to Finished Dimensions as per dwg D3655

SOB 08/06/17 PTO XX

7.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

Check dimensions to ensure conformity to drawing tolerances.

SOB 08/06/17 XX

8.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

SOB 08/06/18 (44)

9.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock
Location: PPP 39440

8/4/19

(44)

SD

10.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

08/06/23 JF

Job Completion



MF 08-06-20

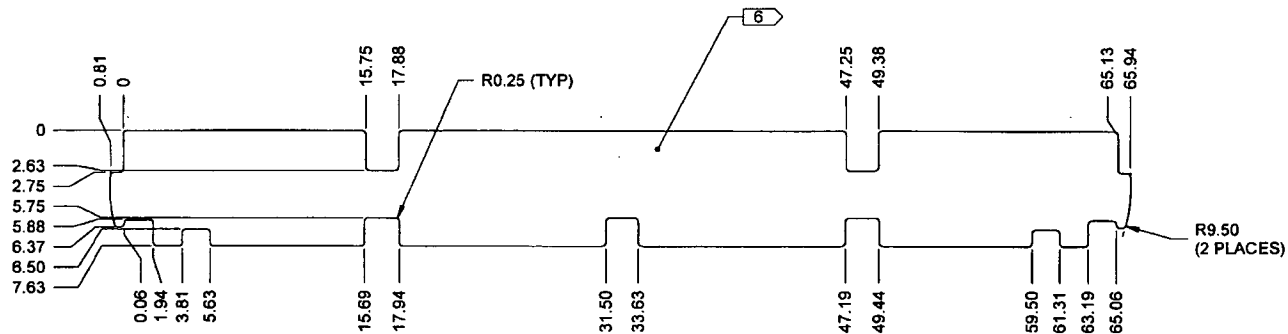
Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D3655-3 PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA: D Date: 08/06/18
 QA: N/C Closed: _____ Date: _____

NCR: <u>39496</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
<u>08.05.26</u>	<u>6</u>	<u>DIMS 19.9 and 45.5 are 20.9 and 44.5</u>	<u>RE</u> <u>08.05.26</u>	<u>ACCEPTABLE DEVIATION</u> <u>(SEE ATTACHED)</u>	<u>M</u> <u>18</u>	<u>08/06/18</u>	<u>RE</u> <u>08.05.26</u>	<u>S</u> <u>08/06/18</u>

NOTE: Date & initial all entries



D3655-1 PANEL

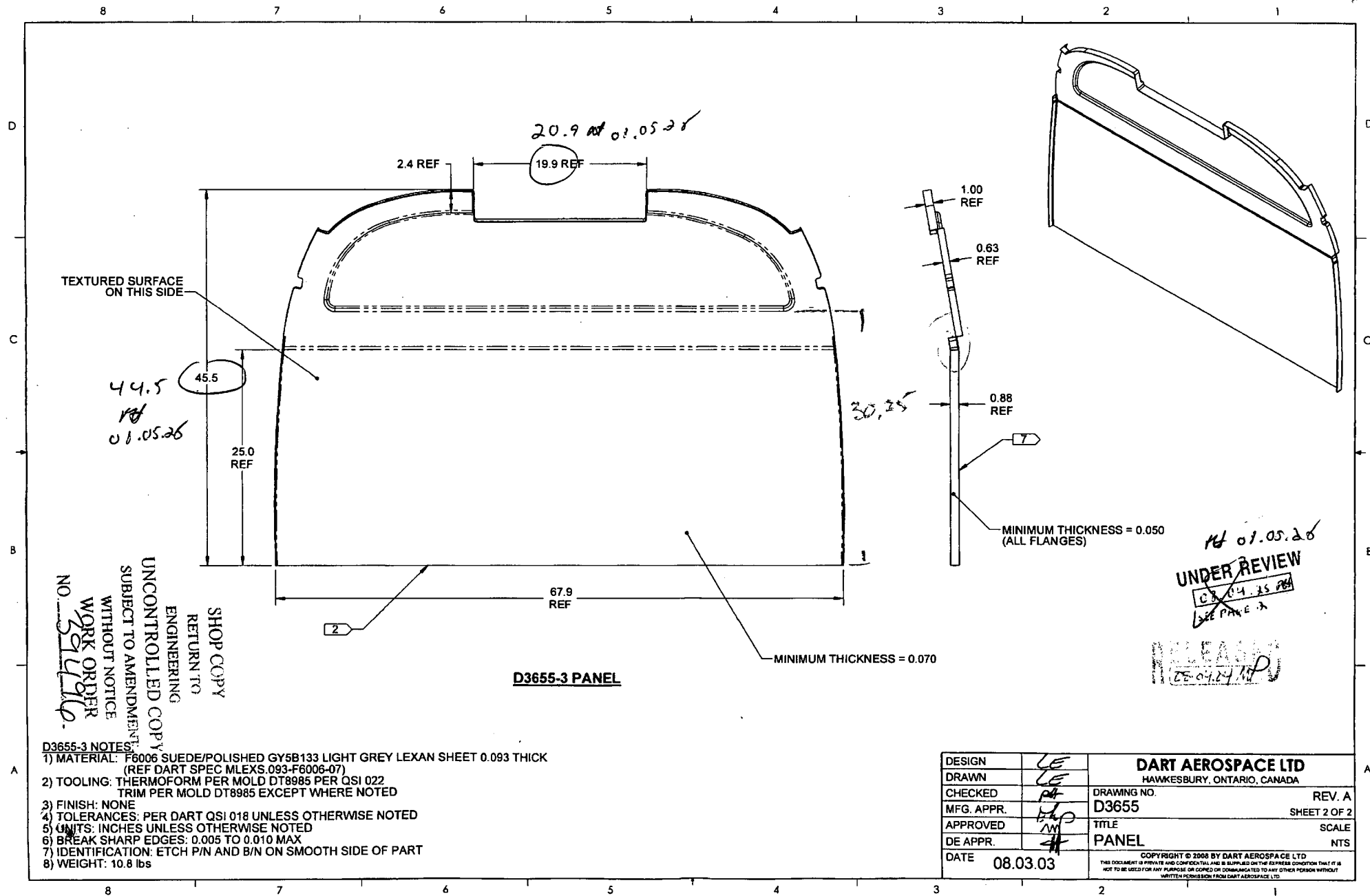
SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 37496

08.05.26
UNDER REVIEW
C.B. 25 PM
SEE PAGE 2

D3655-1 NOTES:

- 1) MATERIAL: F6006 SUEDE/POLISHED GY5B133 LIGHT GREY LEXAN SHEET 0.093 THICK
(REF DART SPEC MLEXS.093-F6006-07)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: ETCH P/N AND B/N ON SMOOTH SIDE OF PART
- 7) WEIGHT: 1.8 lbs

A	NEW ISSUE	LE	08.03.03
REV.	DESCRIPTION	BY	DATE
DESIGN	LE		
DRAWN	LE		
CHECKED	RE		
MFG. APPR.	MP		
APPROVED	MP		
DE APPR.	MP		
DATE	08.03.03		
		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
		DRAWING NO.	REV. A
		D3655	SHEET 1 OF 2
		TITLE	SCALE
		PANEL	NTS
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D3655-3 NOTES:

- 1) MATERIAL: F6006 SUEDE/POLISHED GY5B133 LIGHT GREY LEXAN SHEET 0.093 THICK
(REF DART SPEC MLEXS.093-F6006-07)
- 2) TOOLING: THERMOFORM PER MOLD DT8985 PER QSI 022
TRIM PER MOLD DT8985 EXCEPT WHERE NOTED
- 3) FINISH: NONE
- 4) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 7) IDENTIFICATION: ETCH P/N AND B/N ON SMOOTH SIDE OF PART
- 8) WEIGHT: 10.8 lbs

DESIGN	LE	DART AEROSPACE LTD	
DRAWN	LE	HAWKESBURY, ONTARIO, CANADA	
CHECKED	PA	DRAWING NO.	REV. A
MFG. APPR.	HP	D3655	SHEET 2 OF 2
APPROVED	AW	TITLE	SCALE
DE APPR.	TH	PANEL	NTS
DATE	08.03.03	COPYRIGHT © 2008 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			

Peter Hum

From: Chris Provencal [cprovencal@dartaero.com]
Sent: April 24, 2008 8:57 AM
To: Peter Hum
Subject: FW: NCR D3655-3

Attachments: Image1.jpg; D3655-RevA.pdf



Image1.jpg (57 KB) D3655-RevA.pdf
(118 KB)

From: David Shepherd [mailto:dshepherd@dartaero.com]
Sent: April 11, 2008 3:31 PM
To: 'Chris Provencal'
Cc: 'Mike Petsche'; 'Leger, Daryl'; 'Bill Beckett'
Subject: FW: NCR D3655-3

Mike/Daryl,

I'm not very happy about this to say the least. We just went through the exercise of making a set of parts, trimming them to templates, conforming them to the drawings, and installing them in an aircraft. How can we have been off by 1"? This is totally unacceptable in my opinion. Someone along the line has dropped the ball. How could we have conformed the parts if they were 1" different than the drawings?

My guess is that all fingers will be pointed to Leanne because she is no longer there to defend herself, but if the drawings were no good, then why did you both sign them???? This is the kind of stuff you should be checking. I cannot do this myself from Calgary.

Now we're going to spend more time and money updating Solidworks models and doing drawing updates. We just certified this. These types of issues should have been sorted out on conformity. That was the whole point.

Chris,

If the parts match what is in the aircraft, they will be acceptable. But I don't think we should make any more without doing a PROPER FAI and checking against the drawing.

David

From: Chris Provencal [mailto:cprovencal@dartaero.com]
Sent: Friday, April 11, 2008 7:41 AM
To: dshepherd@dartaero.com
Cc: mpetsche@dartaero.com; D Leger
Subject: NCR D3655-3

David,

For the D3655-3 Panel (350 interiors), the dwg dimension 19.9" is 20.9", dwg dimension 45.5" is 44.5". Ref attached pic. The part was made to the mold. The dwg was evidently created before the mold, and the dimensions were never updated.

The 20.9" width of the 'slot' fits with the mating part correctly; 19.9" would be too small and would have a sloppy fit. A verified this myself.

The dwg length of 45.5" is impossible to achieve from the mold. Daryl made the part as long as possible. The parts have evidently been fit into the aircraft and I'm told this dim works.

The dwg obviously needs an update. In the meantime, can we accept this deviation?

-Chris

No virus found in this incoming message.

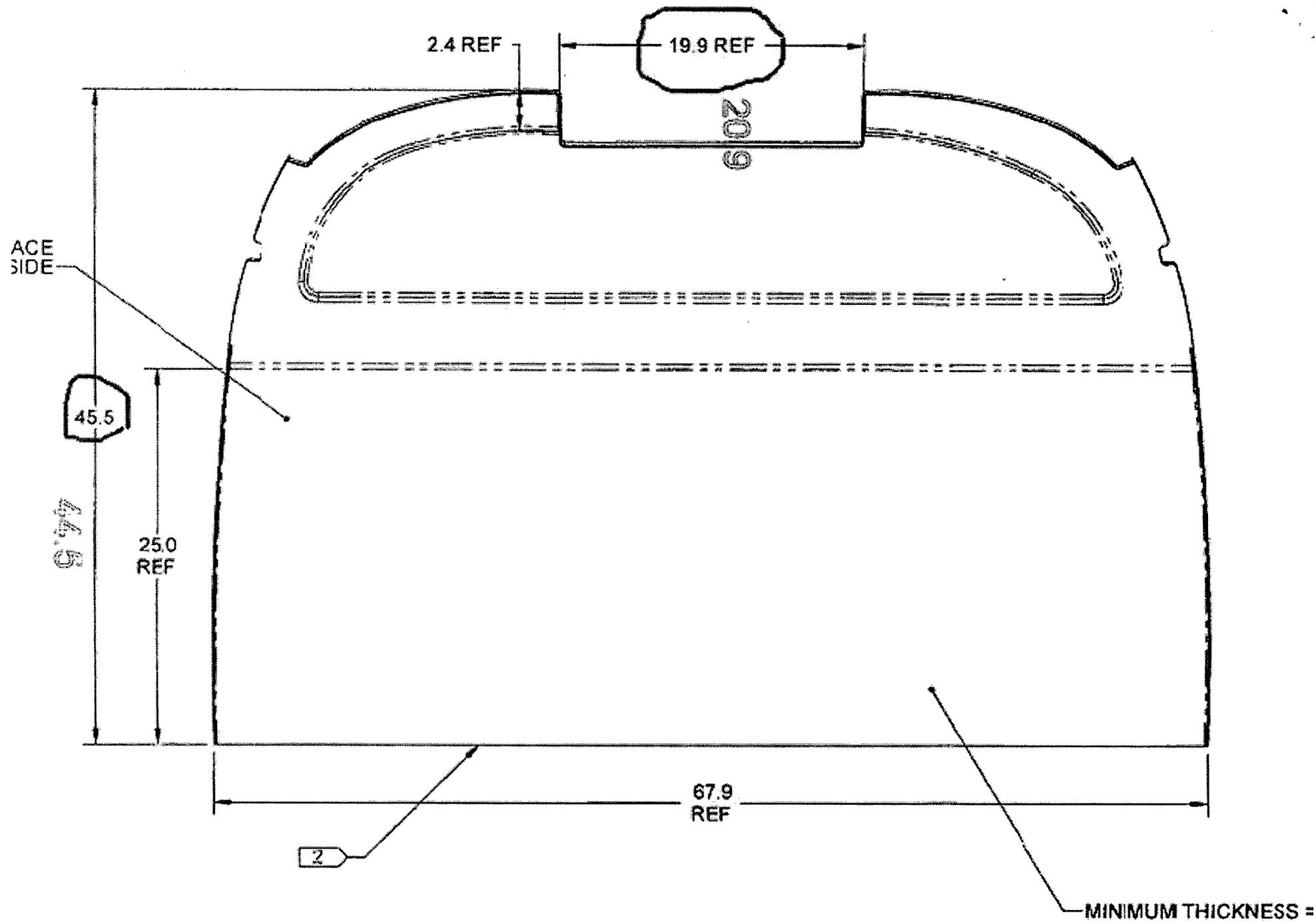
Checked by AVG.

Version: 7.5.519 / Virus Database: 269.22.11/1371 - Release Date: 4/10/2008
12:23 PM

No virus found in this outgoing message.

Checked by AVG.

Version: 7.5.519 / Virus Database: 269.22.12/1373 - Release Date: 4/11/2008
9:17 AM



D3655-3 PANEL

DART AEROSPACE LTD	WORK ORDER:	39496
Description: Upper Bulkhead	Part Number:	1 D3655-3
Inspection Dwg: 3655-3 Rev: A		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

(Step 4) Thermoforming
Visual Inspection Sign-off

Description	Initials
Acceptable shape definition	✓
Free of visual flaws (bumps, cracks, voids, etc.)	✓

(Step 6) Trimming FAI Checklist

Inspect dimensions highlighted on inspection sheet drawing _____ Rev. A and record below

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
44.5"	0.100"	44.5	✓			
20.9"	0.100"	21	✓			
67.9"	0.100"	67.75				
1.0"	.030"	1.00	✓			
0.50" Thickness	Min	.575	✓			

Measured by: <u>BD</u>	Audited by: <u>S</u>	Prototype Approval: <u>✓</u>
Date: <u>08/06/17</u>	Date: <u>08/06/18</u>	Date: <u>8/9</u>

Rev	Date	Change	Revised by	Appro
		New Issue		

DART AEROSPACE LTD	WORK ORDER: 39496	
Description: Upper Bulkhead	Part Number: 2	D3655-3
Inspection Dwg: 3655-3 Rev: A		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

(Step 4) Thermoforming
Visual Inspection Sign-off

Description	Initial
Acceptable shape definition	✓
Free of visual flaws (bumps, cracks, voids, etc.)	✓

(Step 6) Trimming FAI Checklist

Inspect dimensions highlighted on inspection sheet drawing _____ Rev. A and record below

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
44.5"	0.100"	44.5	✓			
20.9"	0.100"	21	✓			
67.9"	0.100"	67.75	✓			
1.0"	.030"	.984	✓			
0.50" Thickness	Min	.60	✓			

Measured by: BB	Audited by: S	Prototype Approval: a/b
Date: 08/06/12	Date: 08/06/12	Date: 12

Rev	Date	Change	Revised by	Appro
		New Issue		

DART AEROSPACE LTD	WORK ORDER:	39496
Description: Upper Bulkhead	Part Number:	3 D3655-3
Inspection Dwg: 3655-3 Rev: A		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

(Step 4) Thermoforming
Visual Inspection Sign-off

Description	Initials
Acceptable shape definition	✓
Free of visual flaws (bumps, cracks, voids, etc.)	✓

(Step 6) Trimming FAI Checklist

Inspect dimensions highlighted on inspection sheet drawing _____ Rev. 4 and record below

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
44.5"	0.100"	44.5	✓			
20.9"	0.100"	21	✓			
67.9"	0.100"	67.25				
1.0"	.030"	1.0	✓			
0.50" Thickness	Min	.56	✓			

Measured by: RB	Audited by: S	Prototype Approval: n
Date: 08/06/17	Date: 08/06/18	Date: 1/2

Rev	Date	Change	Revised by	Approv
		New Issue		

DART AEROSPACE LTD	WORK ORDER:	39496
Description: Upper Bulkhead	Part Number:	4 D3655-3
Inspection Dwg: 3655-3 Rev: A		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

(Step 4) Thermoforming
Visual Inspection Sign-off

Description	Initials
Acceptable shape definition	✓ [Signature]
Free of visual flaws (bumps, cracks, voids, etc.)	✓ [Signature]

(Step 6) Trimming FAI Checklist

Inspect dimensions highlighted on inspection sheet drawing _____ Rev. A and record below

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
44.5"	0.100"	44.5	✓			
20.9"	0.100"	21	✓			
67.9"	0.100"	67.77				
1.0"	.030"	1.0	✓			
0.50" Thickness	Min	.57	✓			

Measured by: <u>BB</u>	Audited by: <u>S</u>	Prototype Approval: <u>n</u>
Date: <u>08/06/17</u>	Date: <u>08/06/17</u>	Date: <u>17</u>

Rev	Date	Change	Revised by	Approved
		New Issue		